

FIG. 1

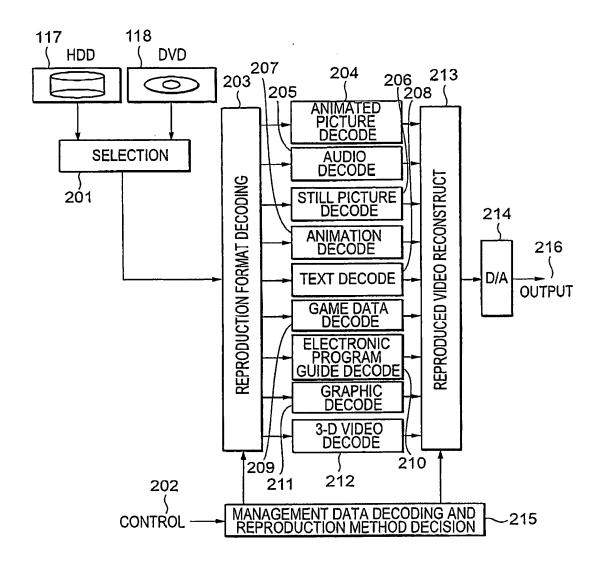
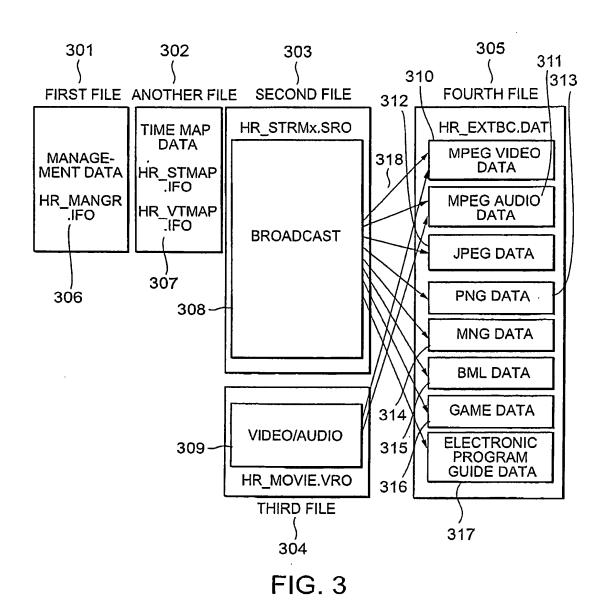


FIG. 2



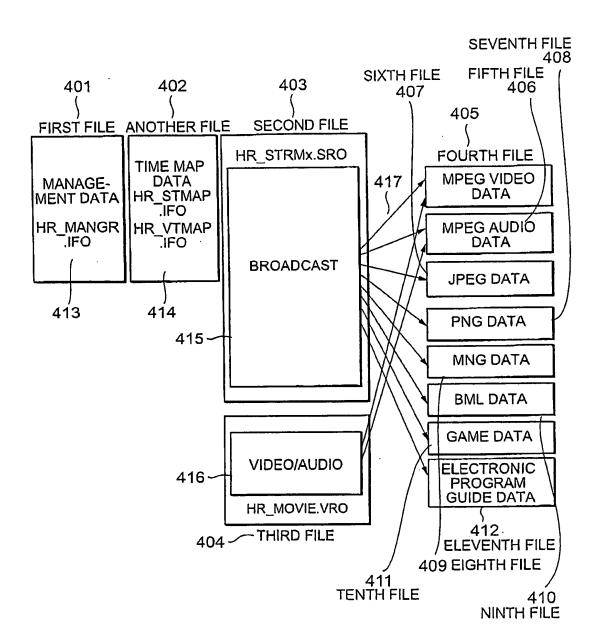


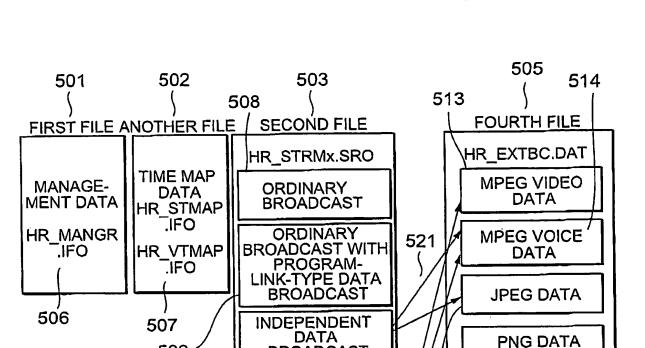
FIG. 4

509

510

511

512-



BROADCAST

AUDIO BROADCAST

VIDEO AND AUDIO

HR_MOVIE.VRO

THIRD FILE

504

515

516

517

518

519

MNG DATA

BML DATA

GAME DATA

ELECTRONIC PROGRAM

GUIDE DATA

520

FIG. 5

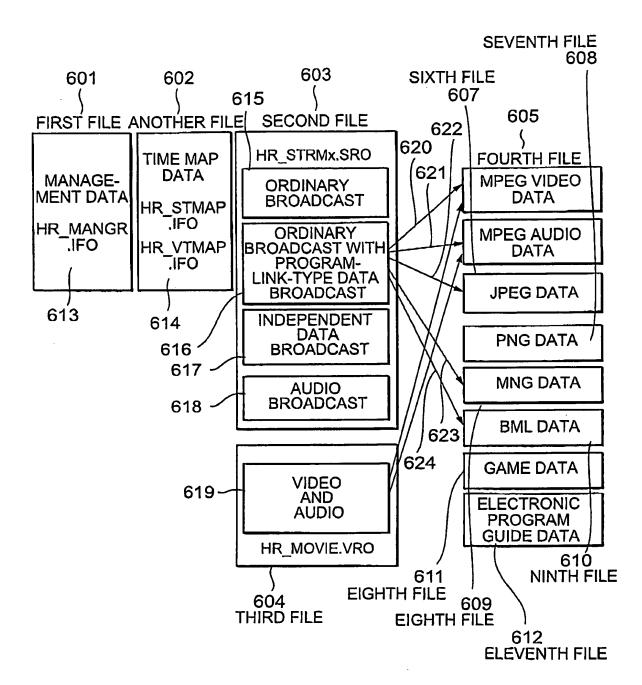


FIG. 6

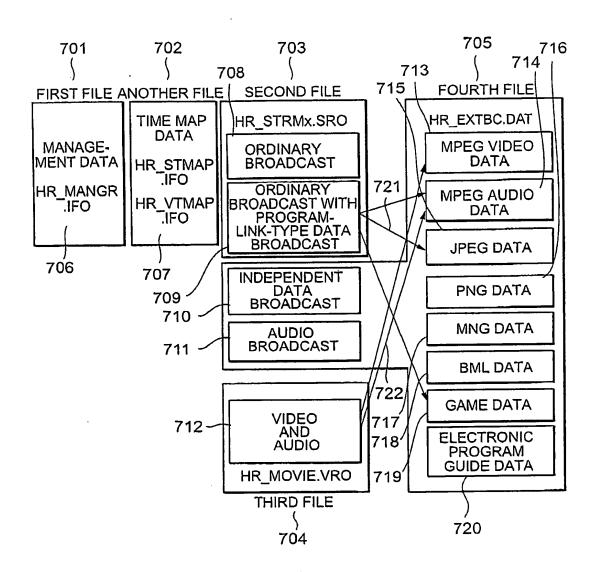


FIG. 7

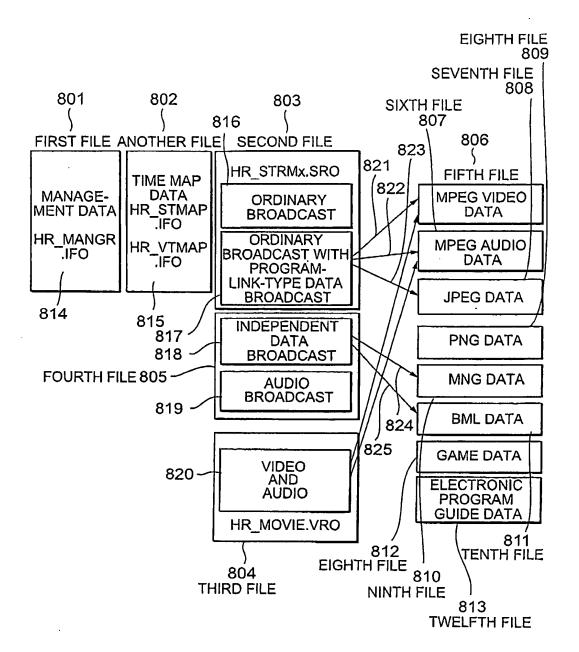


FIG. 8

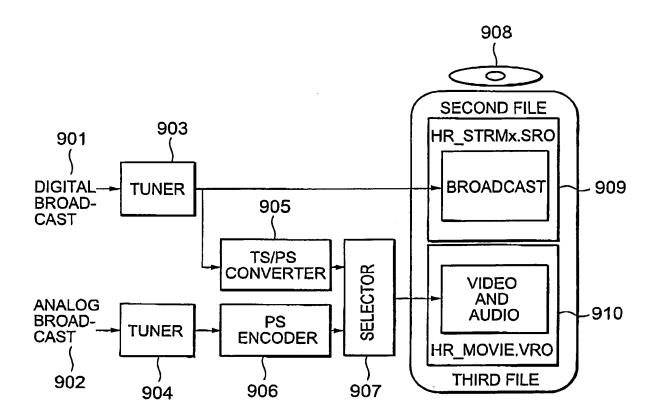


FIG. 9

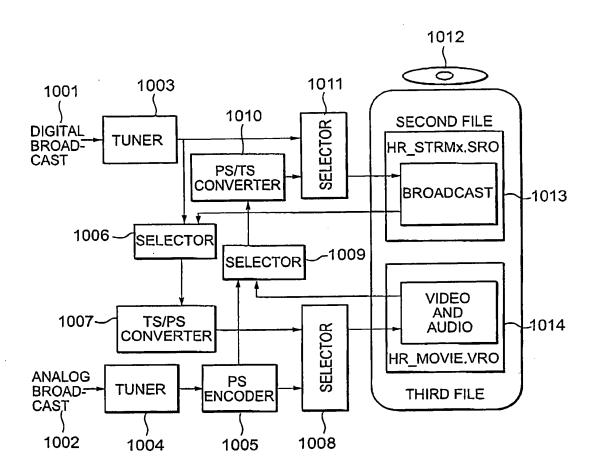


FIG. 10

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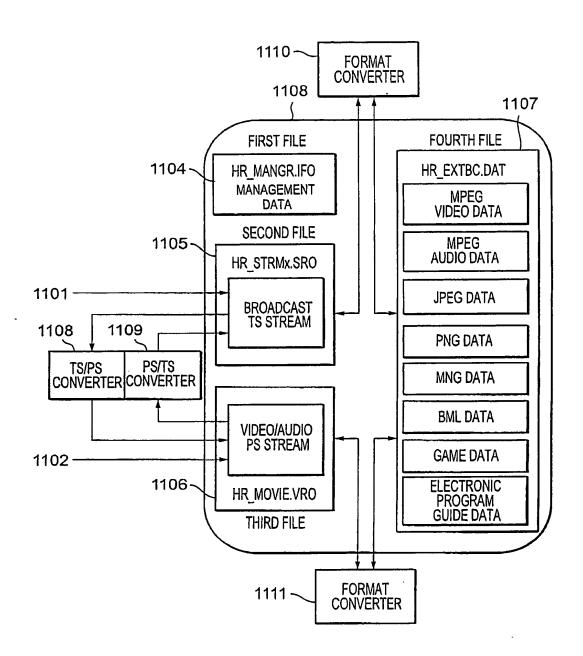


FIG. 11

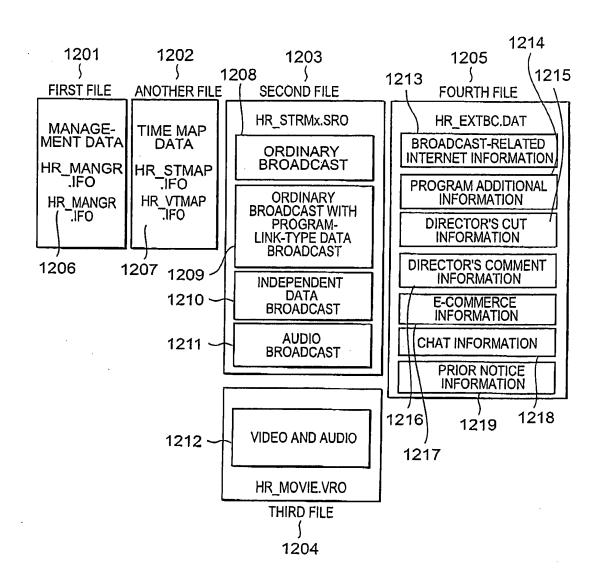


FIG. 12

BROADCAST VIDEO/ AUDIO DATA RECORDING METHOD AND APPARATUS, AND RECORDING MEDIUM Satoshi ITOI 20297 Sheet 13 of 24

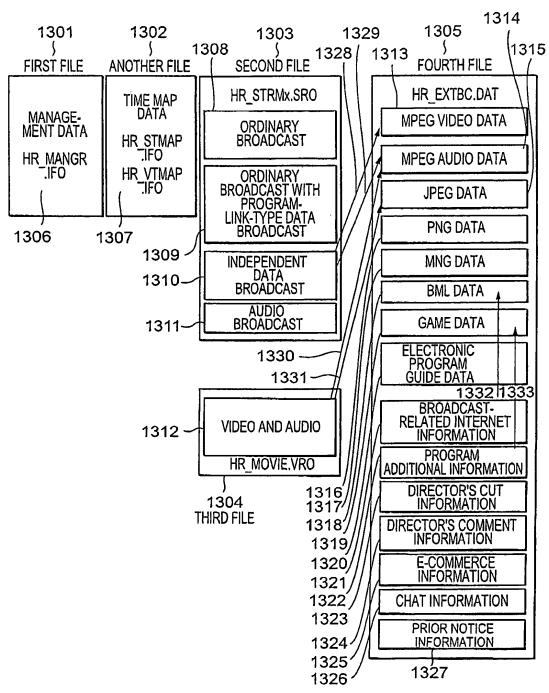


FIG. 13

BROADCAST VIDEO/ AUDIO DATA RECORDING METHOD AND APPARATUS, AND RECORDING MEDIUM Satoshi ITOI 20297 Sheet 14 of 24

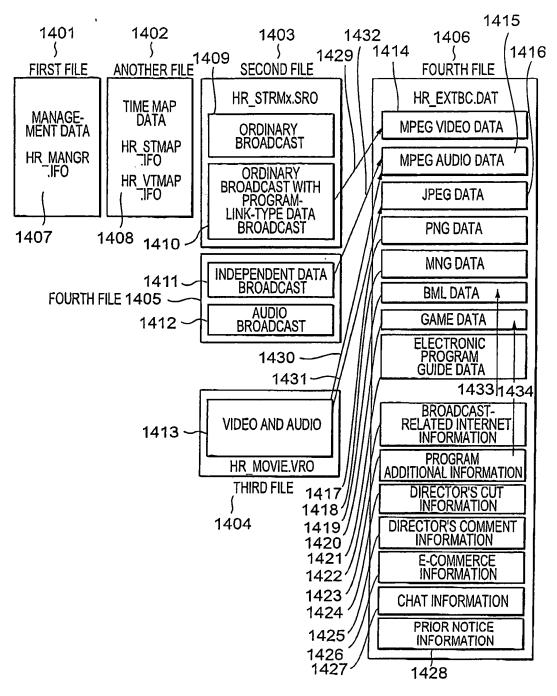


FIG. 14

BROADCAST VIDEO/ AUDIO DATA RECORDING METHOD AND APPARATUS, AND RECORDING MEDIUM Satoshi ITOI 20297 Sheet 15 of 24

```
DVD HDVR
HR MANGR.IFO
STREAM FILE INFORMATION TABLE (STM_AVFIT)
 STM_AVFIT INFORMATION (INFORMATION ON THE ENTIRE FILE) BROADCAST RECORDING FILE ID FLAG
 (BROADCAST RECORDING FILE IDENTIFICATION FLAG)
  OTH BIT O: DIGITAL BROADCAST WITHOUT DATA BROADCAST NOT INCLUDED IN
           HR STRMX,SRO 1: INCLUDED
  1ST BIT 0: DIGITAL BROADCAST WITH LINK-TYPE DATA BROADCAST NOT
           INCLUDED IN HR STRMX.SRO 1: INCLUDED
 2ND BIT 0: INDEPENDENT BROADCAST NOT INCLUDED INHR STRMX.SRO 1: INCLUDED
 3RD BIT 0: INDEPENDENT AUDIO (RADIO) BROADCAST NOT INCLUDED IN HR STRMX.SRO 1: INCLUDED
 4TH BIT 0: TEXT BROADCAST NOT INCLUDED IN HR STRMX.SRO 1: INCLUDED
 5TH BIT 0: ANALOG BROADCAST NOT INCLUDED IN HR_STRMX.SRO 1: INCLUDED OTHER BITS: RESERVED
 EXTRA BROADCAST RELATED DATA RECORDING FILE ID FLAG
 (NON-BROADCAST RELATED INFORMATION RECORDING FILE IDENTIFICATION FLAG)
 OTH BIT O: RELATED INFORMATION OTHER THAN BROADCAST NOT INCLUDED IN
           HR STRMX.SRO 1: INCLUDED
 OTHER BITS: RESERVED
 SOB STREAM INFORMATION #1 TO SOB STREAM INFORMATION #N(INFORMATION ON SOB STREAMS)
 BROADCAST ID FLAG (BROADCAST IDENTIFICATION FLAG)
 BROADCAST FLAG (BROADCAST FLAG)
 OTH BIT O: DIGITAL BROADCAST WITHOUT DATA BROADCAST NOT INCLUDED IN SOB STREAM 1: INCLUDED
 1ST BIT 0: DIGITAL BROADCAST WITH LINK-TYPE DATA BROADCAST NOT
           INCLUDED IN SOB STREAM 1: INCLUDED
 2ND BIT 0: INDEPENDENT BROADCAST NOT INCLUDED IN SOB STREAM 1: INCLUDED
 3RD BIT 0: INDEPENDENT AUDIO (RADIO) BROADCAST NOT INCLUDED IN SOB STREAM 1: INCLUDED
 4TH BIT 0: TEXT BROADCAST NOT INCLUDED IN SOB STREAM 1: INCLUDED
 5TH BIT 0: ANALOG BROADCAST NOT INCLUDED IN SOB STREAM 1: INCLUDED
 OTHER BITS: RESERVED
 COPY MOVE FLAG (COPIED OR MOVED)
 000: ORIGINAL, 001: COPIED, 010: MOVED, 011-111: OTHERS
 SOURCE FILE INFORMATION (SOURCE FILE INFORMATION)
 000: ORIGINAL
 001: COPIED OR MOVED DATA, AND NO SOURCE EXISTS OR LOCATION OF SOURCE IS NOT KNOWN
 010: COPIED OR MOVED DATA, AND SOURCE EXISTS IN HR_STRMX.SRO
 011: COPIED OR MOVED DATA, AND SOURCE EXISTS IN HR SMOVIE.VRO
 100: COPIED OR MOVED DATA, AND SOURCE EXISTS IN EXTBC.DAT
 101-111: RESERVED
SOURCE STREAM NAME (SOURCE STREAM NAME)
 STREAM NAME IF EXISTS, ALL "0" IF NOT EXISTS
SOURCE STREAM NUMBER (SOURCE STREAM NUMBER)
 SOB NUMBER, VOB NUMBER, OR EXTRA STREAM NUMBER OF SOURCE STREAM
SOURCE VIDEO MODE (SOURCE VIDEO MODE)
 000: MPEG-2, 001: MPEG-1, 010: MPEG-4, 011: H.264, 100: WM9,
```

BROADCAST VIDEO/ AUDIO DATA RECORDING METHOD AND APPARATUS, AND RECORDING MEDIUM Satoshi ITOI 20297 Sheet 16 of 24

101-111; RESERVED SOURCE AUDIO MODE (SOURCE AUDIO MODE) 000: MPEG-2 AAC, 001: DOLBY AC-3, 010: MPEG-1, 011: MPEG-2 BC 100: DTS, 101: LPCM, 110-111: RESERVED SOURCE STILL-PICTURE MODE (SOURCE STILL-PICTURE MODE) 000: JPEG, 001: PNG, 010-111: RESERVED SOURCE ANIMATION MODE (SOURCE ANIMATION MODE) 000: MNG, 001-111: RESERVED SOURCE DATA BROADCAST MODE (SOURCE DATA BROADCAST MODE) 000: BML, 001-111: RESERVED SOURCE GAME DATA MODE (SOURCE GAME DATA MODE, 000-111: RESERVED) SOURCE EPG DATA MODE (SOURCE EPG DATA MODE, 000-111: RESERVED) SOURCE GRAPHIC MODE (SOURCE GRAPHIC MODE, 000-111: RESERVED) SOURCE 3D VIDEO MODE (SOURCE THREE-DIMENSIONAL VIDEO MODE, 000-111: RESERVED) SOURCE STREAM MODE (SOURCE STREAM MODE) 000: TS. 001: PS. 010: PES. 011: ES 100-111: RESERVED RECORDED DATA VIDEO MODE (VIDEO MODE 000: MPEG-2, 001: MPEG-1, 010: MPEG-4, 011: H.264, 100: WM9 101-111: RESERVED RECORDED DATA AUDIO MODE (AUDIO MODE) 000: MPEG-2 AAC, 001: DOLBY AC-3, 010: MPEG-1, 011: MPEG-2 BC, 100: DTS, 101: LPCM 110-111: RESERVED RECORDED DATA STILL-PICTURE MODE (STILL-PICTURE MODE) 000: JPEG, 001: PNG, 010-111: RESERVED RECORDED DATA ANIMATION MODE (ANIMATION MODE) 000: MNG, 001-111; RESERVED RECORDED DATA DATA BROADCAST MODE (DATA BROADCAST MODE) 000: BML, 001-111: RESERVED RECORDED DATA GAME DATA MODE (GAME DATA MODE, 000-111: RESERVED) RECORDED DATA EPG DATA MODE (EPG DATA MODE, 000-111: RESERVED) RECORDED DATA GRAPHIC MODE (GRAPHIC MODE, 000-111: RESERVED) RECORDED DATA 3D VIDEO MODE (3D VIDEO MODE, 000-111: RESERVED) RECORDED DATA STREAM MODE (STREAM MODE) 000: TS, 001: PS, 010: PES, 011: ES 100-111: RESERVED EXTRA BROADCAST RELATED DATA ID FLAG (RELATED INFORMATION IDENTIFICATION FLAG OTHER THAN BROADCAST) EXTRA BROADCAST RELATED DATA FLAG (RELATED INFORMATION FLAG OTHER THAN BROADCAST) OTH BIT O: RELATED INFORMATION OTHER THAN BROADCAST NOT INCLUDED SOB STREAM, 1: INCLUDED OTHER BITS: RESERVED

BROADCAST VIDEO/ AUDIO DATA RECORDING METHOD AND APPARATUS, AND RECORDING MEDIUM Satoshi ITOI 20297 Sheet 17 of 24

BROADCAST RELATED DATA CONTENT (RELATED INFORMATION CONTENTS OTHER THAN BROADCAST) 000: RELATED INFORMATION OTHER THAN BROADCAST IS ORDINARY INTERNET DATA 001: STREAMING DATA 010: OTHERS, 011-111: RESERVED DATA BROADCAST DATA (DATA BROADCAST RELATED DATA) TRANSMISSION MODE 00: DATA CAROUSEL MODE 01: EVENT MESSAGE TRANSMISSION MODE 10: TRANSMISSION MODE INCLUDING BOTH 11: RESERVED DATA CARROUSEL AUTO RENEWAL 00: MODE OF RECORDING ALL DATA IN BROADCAST DATA CAROUSEL 01: MODE OF SELECTIVELY RECORDING ONLY UPDATED IN BROADCAST DATA CAROUSEL 10-11: RESERVED REFRESH FLAG 00: AUTOMATIC UPDATE OF OLD DATA WITH NEW DATA IS OFF FOR NEWS, WEATHER FORECAST, STOCK INFORMATION, ETC. 01: AUTOMATIC UPDATE OF OLD DATA WITH NEW DATA IS ON FOR NEWS, WEATHER FORECAST, STOCK INFORMATION, ETC. 10-11: RESERVED REFRESH START TIME LATEST DATA UPDATE START TIME (5 BYTES) YEAR (14 BITS), MONTH (4 BITS), DAY (5 BITS) HOUR (5 BITS), MINUTE (6 BITS), AND SECOND (6 BITS) REFRESH END TIME LATEST DATA UPDATE END TIME (5 BYTES) YEAR (14 BITS), MONTH (4 BITS), DAY (5 BITS) HOUR (5 BITS), MINUTE (6 BITS), AND SECOND (6 BITS) TIME MAP FLAG 00: STREAM HAS NO TIME MAP 01: STREAM HAS TIME MAP 10-11: RESERVED STORAGE BROADCAST FLAG 00: ORDINARY BROADCAST STREAM 01: SERVER-TYPE BROADCAST STREAM 10-11: RESERVED

FIG. 17

BROADCAST VIDEO/ AUDIO DATA RECORDING METHOD AND APPARATUS, AND RECORDING MEDIUM Satoshi ITOI 20097

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```
MOVIE AV FILE INFORMATION TABLE (A_AVFIT)
M AVFIT INFORMATION (INFORMATION THE ENTIRE FILE)
BROADCAST RECORDING FILE ID FLAG (BROADCAST RECORDING FILE IDENTIFICATION FLAG)
0TH BIT 0: DIGITAL BROADCAST WITHOUT DATA BROADCAST NOT INCLUDED IN HR_MOVIE.VOB,
                   1: INCLUDED
   1ST BIT 0: DIGITAL BROADCAST WITH LINK-TYPE DATA BROADCAST NOT INCLUDED IN
   HR MOVIE.VOB, 1: INCLUDED

2ND BIT 0: INDEPENDENT BROADCAST NOT INCLUDED IN HR MOVIE.VOB, 1: INCLUDED

3RD BIT 0: INDEPENDENT AUDIO (RADIO) BROADCAST NOT INCLUDED IN HR_MOVIE.VOB,
                   1: INCLUDED
   4TH BIT 0: TEXT BROADCAST NOT INCLUDED IN HR MOVIE, VOB, 1: INCLUDED
   5TH BIT 0: ANALOG BROADCAST NOT INCLUDED IN THE MOVIE. VOB, 1: INCLUDED
   OTHER BITS: RESERVED
  EXTRA BROADCAST RELATED DATA RECORDING FILE ID FLAG (RELATED INFORMATION RECORDING FILE IDENTIFICATION FLAG OTHER THAN BROADCAST)
   OTH BIT O: NON-BROADCAST RELATION INFORMATION NOT INCLUDED IN HR MOVIE. VOB,
                   1: INCLUDED
   OTHER BITS: RESERVED
   MOVIE VOB INFORMATION #1- MOVIE VOB INFORMATION #N (INFORMATION ON VOBS)
   BROADCAST ID FLAG (BROADCAST IDENTIFICATION FLAG)
BROADCAST FLAG (BROADCAST FLAG)
   OTH BIT O: DIGITAL BROADCAST WITHOUT DATA BROADCAST NOT INCLUDED IN MOVIE VOB,
                    1: INCLUDED
   1ST BIT 0: DIGITAL BROADCAST WITH LINK-TYPE DATA BROADCAST NOT INCLUDED IN MOVIE VOB,
                   1: INCLUDED
   2ND BIT 0: INDEPENDENT DATA BROADCAST NOT INCLUDED IN MOVIE VOB, 1: INCLUDED 3RD BIT 0: INDEPENDENT AUDIO (RADIO) BROADCAST NOT INCLUDED IN MOVIE VOB, 1: INCLUDED 4TH BIT 0: ANALOG BROADCAST NOT INCLUDED IN MOVIE VOB, 1: INCLUDED 5TH BIT 0: ANALOG BROADCAST NOT INCLUDED IN MOVIE VOB, 1: INCLUDED
   OTHER BITS: RESERVED
   COPY MOVE FLAG (COPIED OR MOVED)
000: ORIGINAL, 001: COPIED, 010: MOVED, 011-111: OTHERS
   SOURCE FILE INFORMATION (SOURCE FILE INFORMATION)
   000: ORIGINAL
   001: COPIED OR MOVED DATA, AND NO SOURCE EXISTS OR LOCATION OF SOURCE IS NOT KNOWN 010: COPIED OR MOVED DATA, AND SOURCE EXISTS IN HR STRMX.SRO 011: COPIED OR MOVED DATA, AND SOURCE EXISTS IN HR MOVIE, VRO 100: COPIED OR MOVED DATA, AND SOURCE EXISTS IN HR EXTBC.DAT
   101-111: RESERVED
 SOURCE STREAM NAME (SOURCE STREAM NAME)
STREAM NAME IF EXISTS, ALL "0" IF NOT EXISTS
SOURCE STREAM NUMBER (SOURCE STREAM NUMBER)
   SOB NUMBER, VOB NUMBER, OR EXTRA STREAM NUMBER OF SOURCE STREAM
  SOURCE VIDEO MODE (SOURCE VIDEO MODE)
000: MPEG-2, 001: MPEG-1, 010: MPEG-4, 011; H.264, 100: WM9
   101-111: RESERVED
  SOURCE AUDIO MODE (SOURCE AUDIO MODE)
000: MPEG-2 AAC, 001: DOLBY AC-3, 010: MPEG-1, 011: MPEG-2 BC, 100: DTS, 101: LPCM
   110-111: RESERVED
```

BROADCAST VIDEO/ AUDIO DATA RECORDING METHOD AND APPARATUS, AND RECORDING MEDIUM Satoshi ITOI 20297 Sheet 19 of 24

```
SOURCE STILL-PICTURE MODE (SOURCE STILL-PICTURE MODE) 000: JPEG, 001: PNG, 010-111: RESERVED
  SOURCE ANIMATION MODE (SOURCE ANIMATION MODE)
   000: MNG, 001-111: RESERVED
  SOURCE DATA BROADCAST MODE (SOURCE DATA BROADCAST MODE)
   000: BML, 001-111: RESERVED
  SOURCE GAME DATA MODE (SOURCE GAME DATA MODE, 000-111: RESERVED)
  SOURCE EPG DATA MODE (SOURCE EPG DATA MODE, 000-111: RESERVED)
  SOURCE GRAPHIC MODE (SOURCE GRAPHIC MODE, 000-111: RESERVED)
  SOURCE 3D VIDEO MODE (SOURCE THREE-DIMENSIONAL VIDEO MODE, 000-111; RESERVED)
  SOURCE STREAM MODE (SOURCE STREAM MODE)
   000: TS, 001: PS, 010: PES, 011: ES,
   100-111: RESERVED
  RECORDED DATA VIDEO MODE (VIDEO MODE)
   000: MPEG-2, 001: MPEG-1, 010: MPEG-4, 011: H.264, 100: WM9.
   101-111: RESERVED
  RECORDED DATA AUDIO MODE (AUDIO MODE)
   000: MPEG-2 AAC, 001: DOLBY AC-3, 010: MPEG-1, 011: MPEG-2 BC, 100: DTS, 101: LPCM.
  110-111: RESERVED
 RECORDED DATA STILL-PICTURE MODE (STILL-PICTURE MODE)
  000: JPEG, 001: PNG, 010-111: RESERVED
 RECORDED DATA ANIMATION MODE (ANIMATION MODE)
  000: MNG, 001-111: RESERVED
 RECORDED DATA DATA BROADCAST MODE (DATA BROADCAST MODE)
  000: BML, 001-111: RESERVED
 RECORDED DATA GAME DATA MODE (GAME DATA MODE, 000-111; RESERVED)
 RECORDED DATA EPG DATA MODE (EPG DATA MODE, 000-111: RESERVED)
 RECORDED DATA GRAPHIC DATA MODE (GRAPHIC DATA MODE, 000-111: RESERVED)
 RECORDED DATA 3D VIDEO MODE (THREE-DIMENSIONAL VIDEO MODE, 000-111: RESERVED)
 RECORDED DATA STREAM MODE (STREAM MODE)
  000: TS, 001: PS, 010: PES, 011: ES,
  100-111: RESERVED
EXTRA BROADCAST RELATED DATA ID FLAG
(RELATED INFORMATION IDENTIFICATION FLAG OTHER THAN BROADCAST)
 EXTRA BROADCAST RELATED DATA FLAG
 (RELATED INFORMATION FLAG OTHER THAN BROADCAST)
  OTH BIT 0: RELATED INFORMATION OTHER THAN BROADCAST NOT INCLUDED IN MOVIE VOB,
            1: INCLUDED
  OTHER BITS: RESERVED
 BROADCAST RELATED DATA CONTENT
(RELATED INFORMATION CONTENT OTHER THAN BROADCAST)
 000: NON-BROADCAST INFORMATION IS ORDINARY INTERNÉT DATA, 00: STREAMING DATA,
  010: OTHERS,011-111: RESERVED
```

BROADCAST VIDEO/ AUDIO DATA RECORDING METHOD AND APPARATUS, AND RECORDING MEDIUM Satoshi ITOI 20297 Sheet 20 of 24

```
XTRA BROADCAST FILE INFORMATION TABLE (EXT. AVFIT)
EXT_AVFIT INFORMATION (INFORMATION ON THE ENTIRE FILE)
BROADCAST RECORDING FILE ID FLAG (BROADCAST RECORDING FILE IDENTIFICATION FLAG)
  OTH BIT O: DIGITAL BROADCAST WITHOUT DATA BROADCAST NOT INCLUDED IN HR_EXTBC.DAT, 1: INCLUDED
  1ST BIT 0; DIGITAL BROADCAST WITH LINK-TYPE DATA BROADCAST NOT INCLUDED IN
            HR EXTBC.DAT, 1: INCLUDED
  2ND BIT 0: INDEPENDENT DATA BROADCAST NOT INCLUDED IN HR EXTBC.DAT, 1: INCLUDED
  3RD BIT 0: INDEPENDENT AUDIO (RADIO) BROADCAST NOT INCLUDED IN HR EXTBC.DAT, 1: INCLUDED
  4TH BIT 0: TEXT BROADCAST NOT INCLUDED IN HR_EXTBC.DAT, 1: INCLUDED
  5TH BIT 0: ANALOG BROADCAST NOT INCLUDED IN HR_EXTBC.DAT, 1: INCLUDED
  OTHER BITS: RESERVED
 EXTRA BROADCAST RELATED DATA RECORDING FILE ID FLAG
 (RELATED INFORMATION RECORDING FILE IDENTIFICATION FLAG OTHER THAN BROADCAST)
  OTH BIT 0: RELATED INFORMATION OTHER THAN BROADCAST NOT INCLUDED IN HR_EXTBC.DAT, 1: INCLUDED
  OTHER BITS: RESERVED
 EXTRA STREAM INFORMATION #1 TO EXTRA STREAM INFORMATION #N (INFORMATION ON EACH STREAM)
  BROADCAST ID FLAG (BROADCAST IDENTIFICATION FLAG)
  BROADCAST FLAG (BROADCAST FLAG)
  OTH BIT O: DIGITAL BROADCAST WITHOUT DATA BROADCAST NOT INCLUDED IN EXTRA STREAM, 1: INCLUDED
  1ST BIT 0: DIGITAL BROADCAST WITH LINK-TYPE DATA BROADCAST NOT INCLUDED IN EXTRA STREAM,
            1: INCLUDED
  2ND BIT 0: INDEPENDENT DATA BROADCAST NOT INCLUDED IN EXTRA STREAM, 1: INCLUDED
  3RD BIT 0: INDEPENDENT AUDIO (RADIO) BROADCAST NOT INCLUDED IN EXTRA STREAM, 1: INCLUDED
  4TH BIT 0: TEXT BROADCAST NOT INCLUDED IN EXTRA STREAM, 1: INCLUDED
  5TH BIT 0: ANALOG BROADCAST NOT INCLUDED IN EXTRA STREAM. 1: INCLUDED
  OTHER BITS: RESERVED
 COPY MOVE FLAG (COPIED OR MOVED)
  000: ORIGINAL, 001: COPIED, 010: MOVED, 011-111: OTHERS
 SOURCE FILE INFORMATION (SOURCE FILE INFORMATION)
  000: ORIGINAL
  001: COPIED OR MOVED DATA, AND NO SOURCE EXISTS OR LOCATION OF SOURCE IS NOT KNOWN
  010: COPIED OR MOVED DATA, AND SOURCE EXISTS IN HR STRMX.SRO
  011: COPIED OR MOVED DATA, AND SOURCE EXISTS IN HR MOVIE.VRO
  100: COPIED OR MOVED DATA, AND SOURCE EXISTS IN HR_EXTBC.DAT
  101-111: RESERVED
 SOURCE STREAM NAME (SOURCE STREAM NAME)
  STREAM NAME IF EXISTS, ALL "0" IF NOT EXISTS
 SOURCE STREAM NUMBER (SOURCE STREAM NUMBER)
  SOB NUMBER, VOB NUMBER, OR EXTRA STREAM NUMBER OF SOURCE STREAM
 SOURCE VIDEO MODE (SOURCE VIDEO MODE)
  000: MPEG-2, 001: MPEG-1, 010: MPEG-4, 011; H.264, 100: WM9,
  101-111: RESERVED
 SOURCE AUDIO MODE (SOURCE AUDIO MODE)
  000: MPEG-2 AAC, 001: DOLBY AC-3, 010: MPEG-1, 011: MPEG-2 BC, 100: DTS, 101: LPCM,
  110-111: RESERVED
```

BROADCAST VIDEO/ AUDIO DATA RECORDING METHOD AND APPARATUS, AND RECORDING MEDIUM Satoshi ITOI

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```
SOURCE STILL-PICTURE MODE (SOURCE STILL-PICTURE MODE)
  000: JPEG, 001: PNG, 010-111: RESERVED
 SOURCE ANIMATION MODE (SOURCE ANIMATION MODE)
  000: MNG, 001-111: RESERVED
 SOURCE DATA BROADCAST MODE (SOURCE DATA BROADCAST MODE)
  000: BML, 001-111: RESERVED
 SOURCE GAME DATA MODE (SOURCE GAME DATA MODE, 000-111: RESERVED)
 SOURCE EPG DATA MODE (SOURCE EPG DATA MODE, 000-111: RESERVED)
 SOURCE GRAPHIC MODE (SOURCE GRAPHIC MODE, 000-111: RESERVED)
 SOURCE 3D VIDEO MODE (SOURCE THREE-DIMENSIONAL VIDEO MODE, 000-111: RESERVED)
 SOURCE STREAM MODE (SOURCE STREAM MODE)
000: TS, 001: PS, 010: PES, 011: ES,
  100-111: RESERVED
 RECORDED DATA VIDEO MODE (VIDEO MODE)
  000: MPEG-2, 001: MPEG-1, 010: MPEG-4, 011: H.264, 100: WM9,
  101-111: RESERVED
 RECORDED DATA AUDIO MODE (AUDIO MODE)
  000: MPEG-2 AAC, 001: DOLBY AC-3, 010: MPEG-1, 011: MPEG-2 BC, 100: DTS, 101: LPCM,
  110-111: RESERVED
 RECORDED DATA STILL-PICTURE MODE (STILL-PICTURE MODE)
  000: JPEG, 001: PNG, 010-111: RESERVED
 RECORDED DATA ANIMATION MODE (ANIMATION MODE)
  000: MNG, 001-111: RESERVED
 RECORDED DATA DATA BROADCAST MODE (DATA BROADCAST MODE)
  000: BML, 001-111: RESERVED
 RECORDED DATA GAME DATA MODE (GAME DATA MODE, 000-111: RESERVED)
 RECORDED DATA EPG DATA MODE (EPG DATA MODE, 000-111: RESERVED)
 RECORDED DATA GRAPHIC MODE (GRAPHIC MODE, 000-111: RESERVED)
 RECORDED DATA 3D VIDEO MODE (THREE-DIMENSIONAL VIDEO MODE, 000-111: RESERVED)
 RECORDED DATA STREAM MODE (STREAM MODE)
  000: TS, 001: PS, 010: PES, 011: ES,
   100-111: RESERVED
EXTRA BROADCAST RELATED DATA ID FLAG
(RELATED INFORMATION IDENTIFICATION FLAG OTHER THAN BROADCAST)
 EXTRA BROADCAST RELATED DATA FLAG
(RELATED INFORMATION FLAG OTHER THAN BROADCAST)
  OTH BIT O: RELATED INFORMATION OTHER THAN BROADCAST NOT INCLUDED IN
            EXTRA STREAM, 1: INCLUDED
  OTHER BITS: RESERVED
 BROADCAST RELATED DATA CONTENT
(RELATED INFORMATION CONTENT OTHER THAN BROADCAST)
  000: NON-BROADCAST INFORMATION IS ORDINARY INTERNET DATA.
      00: STREAMING DATA, 010: OTHERS, 011-111: RESERVED
```

FIG. 21

BROADCAST VIDEO/ AUDIO DATA RECORDING METHOD AND APPARATUS, AND RECORDING MEDIUM Satoshi ITOI 20297 Sheet 22 of 24

```
DATA BROADCAST DATA (DATA BROADCAST RELATED DATA)
 TRANSMISSION MODE
      00: DATA CAROUSEL MODE
      01: EVENT MESSAGE TRANSMISSION MODE
      10: TRANSMISSION MODE INCLUDING BOTH
      11: RESERVED
 DATA CAROUSEL AUTO RENEWAL
      00: MODE OF RECORDING ALL DATA IN BROADCAST CAROUSEL DATA
      01: MODE OF SELECTIVELY RECORDING ONLY UPDATED DATA IN BROADCAST DATA
         CAROUSEL
      10-11: RESERVED
 REFRESH FLAG
      00: AUTOMATIC UPDATE OF OLD DATA WITH NEW DATA IS OFF FOR NEWS,
         WEATHER FORECAST, STOCK INFORMATION, ETC.
      01: AUTOMATIC UPDATE OF OLD DATA WITH NEW DATA IS ON FOR NEWS,
         WEATHER FORECAST, STOCK INFORMATION, ETC.
       10-11: RESERVED
 REFRESH START TIME
      LATEST DATA UPDATE START TIME (5 BYTES)
       YEAR (14 BITS), MONTH (4 BITS), DAY (5 BITS),
       HOUR (5 BITS), MINUTE (6 BITS), AND SECOND (6 BITS)
 REFRESH END TIME
      LATEST DATA UPDATE END TIME (5 BYTES)
       YEAR (14 BITS), MONTH (4 BITS), DAY (5 BITS),
      HOUR (5 BITS), MINUTE (6 BITS), AND SECOND (6 BITS)
 TIME MAP FLAG
      00: STREAM HAS NO TIME MAP
      01: STREAM HAS TIME MAP
       10-11: RESERVED
 STORAGE BROADCAST FLAG
      00: ORDINARY BROADCAST STREAM
      01: SERVER-TYPE BROADCAST STREAM
      10-11: RESERVED
```

BROADCAST VIDEO/ AUDIO DATA RECORDING METHOD AND APPARATUS, AND RECORDING MEDIUM Satoshi ITOI 20297 Sheet 23 of 24

HR STMAP.JFO 1PMT PARTIAL TS TIME MAP TABLE IN HR STRX.SRO 1STREF SZ: SOBU 1ST REFERENCE PICTURE SIZE SOBU PB TM: SOBU REPRODUCTION TIME (NUMBER OF VIDEO FIELDS) SOBU_SZ: SOBU SIZE (NUMBER OF SECTORS) HR VTMAP.IFO HR MOVIE.VRO TIME MAP TABLE 1STREF_SZ: VOBU 1ST REFERENCE PICTURE SIZE VOBU_PB_TM: VOBU REPRODUCTION TIME (NUMBER OF VIDEO FIELDS) VOBU_SZ: VOBU SIZE (NUMBER OF SECTORS) HR STRMX.SRO DIĞITAL BROADCAST, DIGITAL BROADCAST WITH PROGRAM-LINK-TYPE DATA BROADCAST, INDEPENDENT DATA BROADCAST, AUDIO BROADCAST STREAM TEXT BROADCAST DATA HR MOVIE.VRO ANALOG BROADCAST VIDEO/AUDIO STREAM HR EXTBC.DAT DATA FILE HAVING DATA BROADCAST DIRECTLY RECORDED. OR PARTIALLY COPIED OR MOVED, AND OTHER STREAMS

FIG. 23

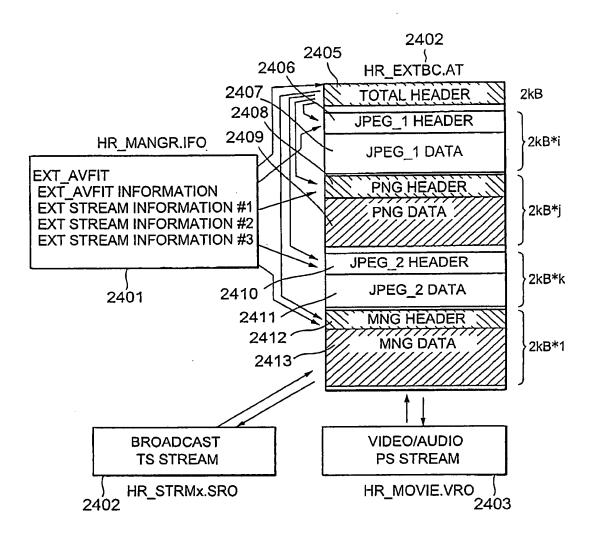


FIG. 24